STARFIELD.

	Position.	Distance.
1846 March 2	328°.78	8′ 44″

ELEMENTS of BIELA'S Comet.

The following elements are computed by Dr. Brunnow and M. d'Arrest from the observations of November 29, December 26, and January 27.

Epoch January 0. 1846.   Berlin M. T.   Differences from Santini.

		Differences from Santini
L	102° 46′ 27″.48	+ 2′ 3″.52
π	109 5 46.56	+ 1 23.23
☊	245 56 57.82	— 20.86
i	12 34 14.49	1 11.36
φ	49 3 59.42	6 40.56
Log. a	0.5442926	—0.0020434
Mean Motion	541″.46161	+ 3″.80798
Time	Feb. 11.03268	—0.37282

If these differences be *subtracted* from the elements here given, the result will be Santini's elements.

DE VICO's Third Comet.

Father De Vico communicated the discovery of his third comet to the Astronomer Royal, in a letter dated January 27, 1845. " I have the pleasure to announce to you the discovery of another comet in *Eridanus*, made on the evening of the 24th instant. The first apparent observed position, which I believe to be tolerably accurate, is as follows:—

	Rome M.T.	R.A.	Dec.
	h m s	h m s	° ′ ″
1846 Jan. 24	10 38 17.8	4 6 59.2	—7 11 30.6

" The hourly motion is about 1ˢ.434 to the east, and 2′ 46″ to the north."

OBSERVATIONS.

BERLIN.

	Berlin M.T.	R.A.	Dec.
	h m s	° ′ ″	° ′ ″
1846 Feb. 14	7 22 56.2	67 44 38.9	+ 16 37 42.0
18	9 13 45.9	69 23 30.6	20 26 58.7
22	7 24 50.4	71 6 41.7	23 49 34.2
	7 44 40.4	71 7 6.1	+ 23 50 19.0

ALTONA.   In the Meridian.   (M. Petersen.)

	Altona M.T.	R.A.	Dec.
	h m s	° ′ ″	° ′
1846 Feb. 15	6 51 46	68 7 47.9	+ 17 34 40.2

The comet has an evident nucleus.

HAMBURG.

		Hamburg M.T.	R.A.	Dec.	
		h m s	° ′ ″	° ′ ″	
1849	Feb. 14	7 22 56·2	67 44 38·9	+16 37 42·0	
		8 15 34·4	67 45 39·5	16 39 59·6	
		10 45 45·8	67 48 6·6	16 46 25·3	
	15	7 56 4·5	68 9 1·0	17 37 7·4	cloudy
	18	7 22 57·1	69 22 1·3	20 23 13·7	
	21	8 30 50·4	70 41 2·5	23 2 26·1	
	22	9 48 30·0	71 9 46·8	23 55 17·6	
	24	7 37 35·6	72 2 57·9	25 26 39·7	
	25	8 38 41·4	72 32 28·2	26 15 20·3	
	26	8 22 58·2	73 1 24·8	27 0 22·5	
	27	8 24 8·0	73 30 52·0	27 44 45·2	
	28	8 11 36·8	74 0 44·3	28 27 39·8	
	Mar. 2	8 8 53·0	75 2 21·3	29 49 58·4	
	3	9 46 21·2	75 35 27·9	30 33 34·0	
	4	9 31 52·9	76 7 1·8	31 12 21·6	
	5	9 36 24·6	76 39 34·1	31 50 5·3	
	6	9 37 48·4	77 12 6·8	+32 27 14·7	

PADUA.   With the Equatoreal.   (Professor Santini.)

Date.	Padua M.T.	R.A.	Dec.	No. of Obs.	Star.
1846.	h m s	h m s	° ′ ″		
Jan. 30	7 31 16·6	4 12 1·62	−0 0 35·8	2	44 Eridani
31	7 28 55·0	4 13 0·29	+1 11 54·6	2	44 Eridani

STARFIELD.   20-foot Reflector.   (W. Lassell, Esq.)

Starfield Sid. T.

			h m s		m s
1846	March 9	At 8	30 30·8	comet precedes star	1 4·27
		8	17 14·1	— is south of —	1′ 36″

Approximate place of star   R.A. 5 15 39   N.P.D. 55 45′   (7·8) mag.

DURHAM.   Fraünhofer Equatoreal.   (M. W. A. Le Jeune.)

Durham Sid. T.

		h m s		s
1846	March 5	7 56 14	R.A. comet = R.A. star	−35·2
		8 30 1	Dec. comet = Dec. star	−3′ 0″

Approximate place of star   R.A. 5 7 14   Dec. +31 54 15″   (9) mag.

ELEMENTS of DE VICO's Third Comet.

Professor Encke finds that, unless there be some error in De Vico's place of Jan. 24, the path of the comet cannot be expressed by a parabola. His elements, which were computed from the place of Jan. 24, are erroneous on Feb. 18 and 22, as much as 3′ and 6′ in declination.

First Approximation by M. Encke :—

Perihelion Passage, Jan. 26, 34911, Berlin Mean Time.

Perihelion .... $92°\ 40'\ 22''·3$ ⎫ Mean Equinox,
☊ .... $111\ 40\ 46·7$ ⎭ 1846.
Inclination............. .... $46\ 19\ 32·9$

Log. *q* 0·169539.
Motion direct.

Approximate by M. Rumker :—

Perihelion Passage, 1846, Jan. 25, 1224, Greenwich Mean Time.

Long. of Perihelion .... $92°\ 2'\ 4''$ ⎫ Apparent Equinox,
Long. of Ascending Node......... $111\ 51\ 1$ ⎭ Jan. 30.
Inclination .... $46\ 14\ 2$

Log. Perihelion Distance, 0·167251.
Motion direct.

There is, M. Encke remarks, a faint resemblance to the comets of 1783 and 1793, but the node is so totally different that nothing can be inferred.

Mr. Graham, assistant to Mr. Cooper, computed the following elements on the observations of Jan. 24, and those of Altona and Hamburg on Feb. 14 and 15, and the Markree observations of Feb. 17 :—

Perihelion Passage, 1846, Jan. 30, 836.

Long. of Perihelion .... $96°\ 16'\ 50''$
Node .... $111\ 51\ 8$
Inclination .... $45\ 18\ 58$
Perihelion Distance, 1·486.
Motion direct.

Mr. Cooper compares these elements with those of Pigott's comet, discovered in 1783, and points out the resemblance between them ; but it would seem that this is only accidental.

De Vico's Fourth Comet.

On Feb. 20, Father De Vico discovered his fourth comet, the place of which he thus designates in a letter to Professor Schumacher :—

Rome M.T.
1846, Feb. 20. $7^h\ 18^m\ 36^s·9$ 36 Ceti — Comet = $7^m\ 7^s$ in R.A.
                                       = $-\ 6'\ 45''$ in Dec.

These are the results of three concordant observations. The horary motion in right ascension is $-\ 3^s·2055$ nearly, and $4'\ 27''·17$ in declination to the north.

This comet has so much similarity with that of Brorsen, that at first the two were suspected to be identical.

Brorsen's Comet.

On the 26th February, about 8 p.m., M. Th. Brorsen, student in philosophy at Kiel, discovered a comet not far from *η Piscium*, the position of which he estimated to be,

Right Ascension 13°   Declination + 14° 25'.